To contribute to a successful project for SNHU Travel we use the Agile and Scrum methodology. Combining all roles and participants to stay in contact and work as a team.

The roles include:

* + Stakeholders – individuals and organizations that are involved with the project positively or negatively
  + Product Owner – the informant, who holds/ provides / gets the information to help the team understand what is expected for the team to develop
  + Scrum Master – the leader/assistant for the developing team
  + Developing team – the designers of the project
  + Testers – tests the project for bugs and improvements

The Scrum-Agile approach helps with the SDLC (software development life cycle) as the whole team works together by:

* + Gathering the expected requirements
  + Receiving the expected analysis
  + Creating the expected development and design
  + Running the expected testing
  + Providing the expected maintenance and support

SDLC is a process of creating, deploying, using and maintaining an information system using the following steps:

* + Project Planning
    - Identify the scope of the project
    - Resource plan is created
    - Schedule is formed
    - Budgets are decided
  + Analysis
    - Needs are analyzed
    - Needs are documented
    - Gathering system requirements
    - Build prototypes
    - Evaluating alternatives
    - Reviewing requirements
  + Design
    - Requirements are modeled
    - Application architecture is performed
    - Network is created
    - User interfaces are performed
    - System interfaces are performed
    - Databases are created
    - Prototypes are designed
    - System controls are set
  + Implementation
    - Implementing reliable information system using the proper language
    - Constructing software components
    - Verification of code
    - Testing of code
    - Conversion of data
    - Training the users
    - Documentation of the system
    - Installing the system in working environment
  + Support
    - To maintain a running system for many years
    - Enhancing the system
    - Providing support for users

The Agile methodology is designed so that each role uses each other to complete the project. Every person has a job that they will work together to complete the assignment. And a great way that the team keeps in contact is by the sprints. A team meeting that combines all of the information to keep track of what is going on, what needs to be done, and where everyone needs help. Using this method keeps everyone informed and connected as a team. This is also where if any problems or bugs are occurring where teammates can collect help or further details to resolve the issues as the team continues section by section. The sprint planning into the sprint all consists of:

* + All team members such as: the Scrum Master, Product Owner, Developing Team, and Testers are invited
  + The Sprint planning will identify which stories that are needed to deliver
  + A walk through of the story, the title, the description, the story points, and check ins on corrections or issues
  + Together as a unit they will come up with an estimate on the start date, end date, and the goal for the end of the sprint
  + As the sprint will continue the meetings will become more of checking ins 15 – 30 minutes every day to discuss
  + In the Scrum meeting/ sprint the Scrum Master will collect the team members work status and details such as
    - What was completed yesterday?
    - What is expected to get done today?
    - Were there any issues so far?
    - Any provided help or advice that could be given
  + If the issues cannot be resolved by the team or the team needs more information the Scum Master must contact the Product Owner to keep the Product owner informed on the situation and ask for help
  + The Product Owner must provide any information that may help the team continue their process. Whether it is sharing facts from the customer or giving feedback or advice

Each role of the Scrum team has a job to perform. Using a communication skill such as a Sprint will be what keeps the team together and up to date with each other as they complete the project as a team. The roles and their jobs are:

* + Product Owner:
    - Responsible for providing information for the team
    - Responsible for delivering the product to the client
    - Monitoring where the team is at and what they are doing
    - Provide suggestions to the team members
    - Provide updates and feedback from the clients to the team
    - Keeping everyone up to date and on time
  + Scrum Master:
    - Manages team
    - Conducts meeting with team
    - Collects daily status updates
    - Gather information that could be used in the Back log
    - Collects requirements from the Product Owner
    - Addresses issues
    - Provides any information and help that can be used by the team
  + Developing team:
    - The team is small
    - Contains developers and testers and tech leads
    - Creates the project design
    - Test through bugs
    - Solves issues
    - Uses provided information from team to reach clients expectations

Some of the tools that the team can use to help stay organized and be successful are:

* + Get Repository
  + Project folder structure
  + Dashboard
  + Unit testing
  + Code Review
  + Jenkins Pipeline creation
  + JIRA which is:
    - Atlassian company product
    - Used to manage project work
    - Used as a bug reporting tool
    - Is a web application, used directly across the web
    - Software developed with all the tools and help that any team can create and design their own software and projects.

The Agile methodology uses the Scrum methodology. A layout of principles and values that can be applied to any project. A Scrum team breaks down the project into phases that can be completed and checked as it gets completed. As the team moves through the fragments of the project, they have time to discuss and improve as they employ real-time decision making based on actual events and information. The agile methodology is a more adaptive approach that has time for change because some of their decisions may not have been thought out thoroughly and will need good decision-making skills to make the right calls. These details will be caught in each sprint throughout the whole project.

STAGES:

* Scope out projects
* Prioritize projects
* Present requirements in diagrams
* Gather information for the sprint
* Construction/iteration
* Release the iteration into production
* Support for software release

PROS:

* + - Easy to review
    - Easy to adjust
    - Divides the project development into a sprint
    - Is best suitable for complex jobs
    - Is suitable for large projects
    - Clients don’t need to wait a long time to see what has been completed and see the final piece
    - A way that everyone on the team can get the right
    - Customer satisfaction is rapid
    - Face-to-face communication information
    - Close cooperation between business people and developers
    - Easier to get help if needed
    - More flexible

CONS:

* + - Cost of project is not fixed
    - Poor resource planning
    - Requires expert project members to be the decision maker
    - Limited documentation
    - High chance of failure if team are not committed or cooperative
    - Fragmented output from everyone working on their own component
    - If team is large the scrum framework could be challenging
    - Not pre planned, working as the team goes can get confusing and sidetracked
    - Daily meetings can get frustrating
    - Working in increments makes it hard to measure progress, or estimate deadlines

With there being enough resources provided the Waterfall Methodology would work. But using the Agile Methodology there is room to improve, and it would be less complicated to add an idea or catch an error before it's too late. For a project like SNHU Travel the team is pushing for that audience review along with the clients' requirements. Another reason that I like using the Agile Methodology is the teamwork if you get the right team players you can produce a unique setting and a well put together design that starts and finishes at the appropriate time using teamwork through help and opinions. Everyone on the team will be on the same page so if someone is confused or runs into a bug it would be nothing to the fastest solution.